

# Operations Manual



PDT-SPL-1202-1000-I

Revision 1.0 – September 2022



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## 2. Abbreviations

Abbreviation	Description
AP	Access Point
CCA	Copper-Clad Aluminium
DC	Direct Current
IEEE	Institute of Electrical and Electronic Engineers
IP	Internet Protocol
MTBF	Mean Time Between Failures
PD	Power Device
PoE	Power over Ethernet
PSU	Power Supply Unit

## 3. Safety Information

### 3.1 General Safety Information

#### **WARNING**

Only trained and authorised personnel should be permitted to work on this equipment. It is assumed that those using this guide are competent to work on equipment of this nature and will take appropriate precautions when working with the fault analysis guide.

All devices should be inspected upon receipt for signs of physical damage, which may in turn, affect operational performance, or the overall safety of the unit. Any damaged items should be returned to Parallax Digital Technologies Ltd for safety checks.

Parallax Digital Technologies accepts no responsibility for any injury or loss caused by unsafe or inadequate working practices, or for work carried out by an unauthorised third party.

To prevent possible danger, damage, and bodily harm when handling the equipment, please observe all warnings, cautions notices contained in this section. Failure to heed the following danger, warnings, and cautionary statements could lead to serious injury or death.

### 3.2 DC Power Supply

#### **WARNING**

This device is designed to operate from either a PoE Power Source, or from a local +12VDC PSU. When using a local DC Power Supply, then an appropriate circuit protection device should be used to ensure that the supply circuit is interrupted, in the event that a fault in the device causes too much current to flow into it, causing an unsafe condition.

## 4. Packing List

The following items are included in the shipping carton:

- 1 x PDT-SPL-1202-1000-I Industrial PoE Splitter
- 1 x DIN Rail Mounting Kit (Fitted)
- 1 x Wall Mounting Kit
- Operation & Maintenance Manual (May be electronically supplied)
- Declaration of Conformity (May be electronically supplied)

## 5. Product Overview

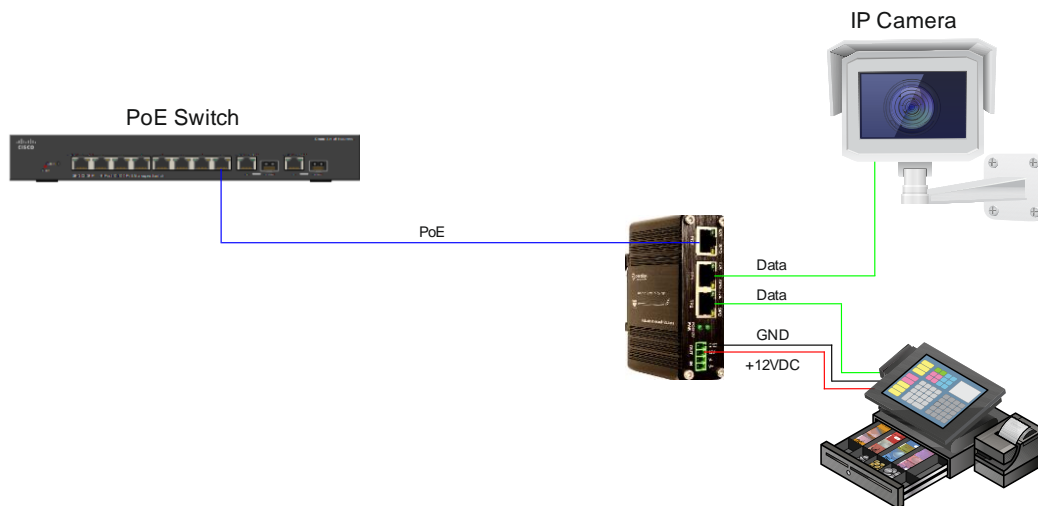
The PDT-SPL-1202-1000-I is an Ultra-Small Form Factor Industrial PoE Splitter capable of delivering Gigabit Ethernet via RJ-45 Connections, and +12VDC Power via terminal block, to non-PoE compliant devices, saving the cost of providing on site electrical power to edge devices.

The device is Plug and Play, and is completely unmanaged, therefore requiring no tools or software configuration for operation. With 2 x RJ45 data ports, the device also functions as an unmanaged network switch.

The Dual power input (PoE/DC) allows for fault tolerance in network designs as the device will automatically revert to DC Input in the event of PoE Power Failure, allowing for the use of a backup battery on-site, should host device PoE power fail.

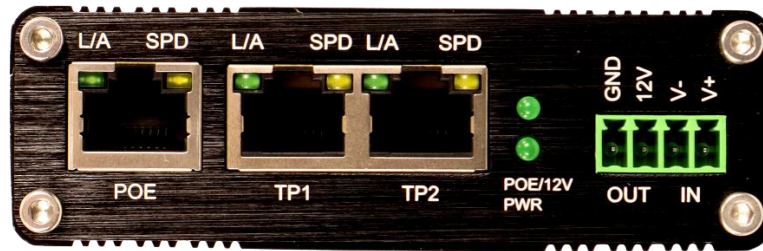
The device is designed for use in harsh industrial environments, and incorporating a rugged aluminium housing, it can be operated across a wide temperature range (-40°C to +80°C) making it suitable for most conditions.

A typical application setup can be seen in the following diagram:



## 6. Connectors and Indicators

### Front Panel



#### 6.1 LED Indicators

The Front Panel LEDs display the status of the switch and the associated port connections as indicated in the table below:

LED	Name	Colour	State	Status
PWR	Power	Green	OFF	Unit Power Off
			ON	Unit Power On
POE/12V	12V Output	Green	OFF	No 12V Output
			ON	12V Output OK
L/A	Link Activity	Yellow	OFF	No Connection
			ON – Steady	Connection
			ON – Flashing	Data Tx/Rx
SPD	Link Speed	Green	OFF	No Link
			ON – Steady	100 Mbps
			ON – Flash	1000 Mbps

## 6.2 RJ45 Ports

The Front Panel has 3 RJ45 Ports on the Front Panel. The POE port should be used for Uplink purposes and the host device should have PoE enabled to power the unit. The remaining ports (TP1 and TP2) can be used as Access Ports, and do not have PoE capable outputs.

Port	Function
POE	PoE/PoE+ Trunk Port
TP1	Access Port 1 – No PoE Output
TP2	Access Port 2 – No PoE Output

## 6.3 Power Supply Connector

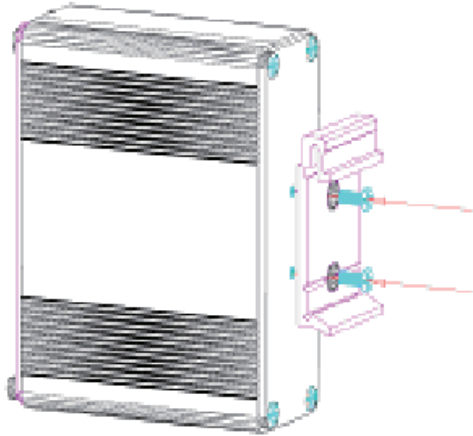
Pin	Type	Description
GND	Output	GND Power Output from PoE Source
12V		+12VDC Power Output from PoE Source
V-	Input	Backup GND Supply from External Source
V+		Backup +12VDC Supply from External Source

Note: All Power Supplies should provide over-current and short-circuit protection and should have a capacity rating to meet the required output current for the device.

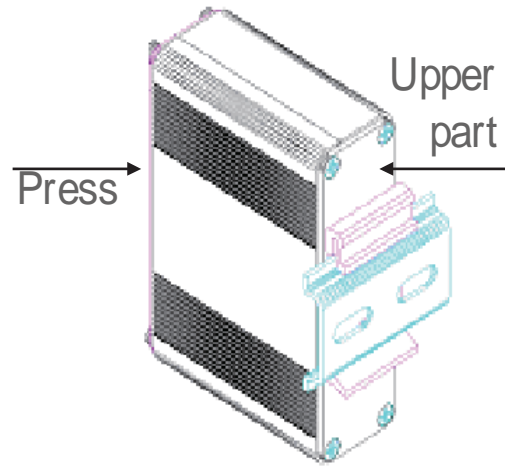


## 7. Installation Procedures

### 7.1 DIN Rail Installation

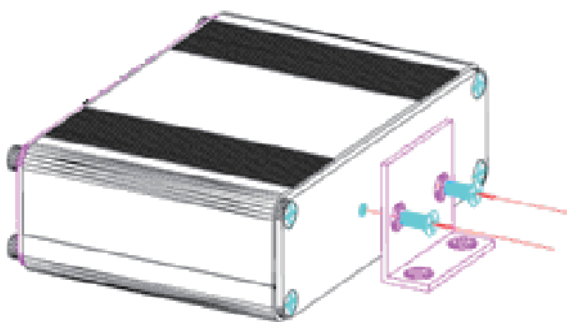


Attach the DIN Rail Bracket (if not fitted) to the switch case using the screws supplied

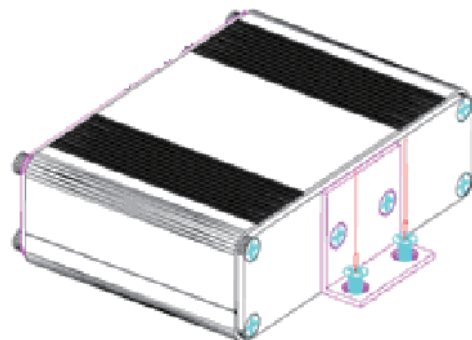


Clip the upper edge of the bracket onto the DIN Rail and push to latch the bottom strip

### 7.2 Wall Mount Installation



Attach the Wall Mount Bracket (if not fitted) to the switch case using the screws supplied



Mount the switch to the required surface using appropriate fixings

## 8. Connection and Setup

### 8.1 Inspection Checks

Please inspect the unit to ensure that there is no damage to the external casing which could cause a malfunction of the device or cause a safety critical fault. Any damaged units should be returned to Parallax Digital Technologies for inspection and testing.

Please ensure that the DC Cables are securely fastened in the terminal block, and that the terminal block is correctly inserted into the switch power connector housing.

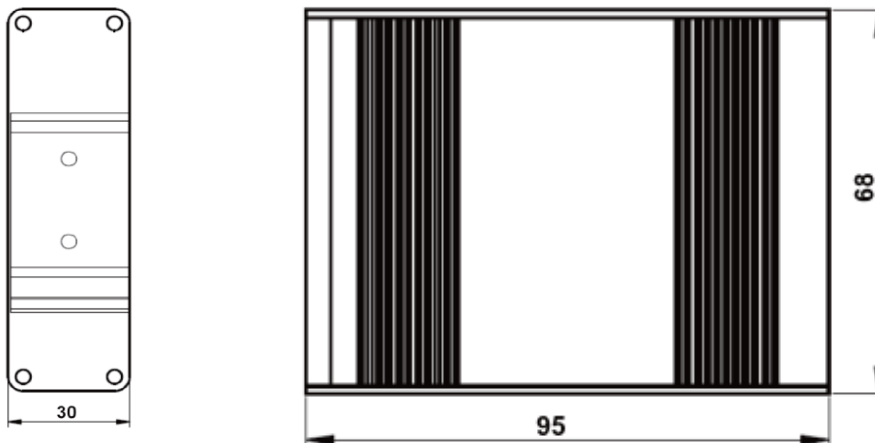
### 8.2 RJ45 Connections

Ensure all required RJ45 Ports are connected correctly using CAT5e cable or better to the client devices. The Uplink Port (POE) should be connected to the host device or network, and the access ports TP1-2 are available for other devices or connections. All cables should be solid copper and not CCA.

### 8.3 Power Up

The Unit will automatically power up as soon as a valid power source is detected, either from a PoE/PoE+ feed, or an external +12VDC power supply. The LEDs will flash to complete the initialization sequence. Following this, the POE/12V LED will illuminate, indicating a valid +12VDC output at the terminal block for external devices.

## 9. Physical Dimensions



All Dimensions are in mm

## 10. Hardware Specification

### ETHERNET

Standards	IEEE 802.3 Ethernet IEEE 802.3u Fast Ethernet IEEE 802.3ab Gigabit Ethernet IEEE 802.3x Full Duplex Flow Control IEEE 802.3az Energy Efficient Ethernet
Forwarding and Filtering Rate	14,880pps (10Mbps) 148,800pps (100Mbps) 1,488,000pps (1000Mbps)
Packet Buffer	1Mbits
Packet Length	10KB
MAC Address Table	8K
Exchange Property	Backplane Bandwidth 20Gbps Packet Forwarding Rate 14.88Mbps

### INTERFACE

PoE/PoE+ In	1 x 10/100/1000 RJ45
Access Ports	2 x 10/100/1000 RJ45
Power	5 Pin Terminal Block

### ENVIRONMENTAL

Operating Temperature	-40°C to +80°C
Storage Temperature	-40°C to +85°C
Relative Humidity	5% - 95% non-condensing
MTBF	>200,000 hours

### ELECTRICAL

Operating Voltage	+12VDC PoE or DC Terminal Block Input
Power Consumption	5w standalone (25W with full external load)
External Load	Up to 20W
Short-Circuit Protection	Auto-Reset
Reverse Polarity	Protected

### MECHANICAL

Dimensions	95mm x 70mm x 29mm
Weight	250g
Casing	Aluminium
Mounting	DIN Rail & Wall Mount

### INDICATORS

PWR	Power
POE/12V	+12VDC Output
L/A	Link/Activity
SPD	Data Transmission Speed

CERTIFICATION

Electrical Safety	EN 62368-1:2020+A11:2020
Emissions	EN 55032:2015+A1:2020
Radiated Immunity	EN 55035:2017+A1:2020
Harmonic Emissions	EN 61000-3-2:2014
Fluctuations and Flicker	EN 61000-3-3:2013
Electro-Static Discharge	EN 61000-4-2:2009
Electromagnetic Field Immunity	EN 61000-4-3:2010
Electrical Fast-Transients	EN 61000-4-4:2012
Surge	EN 61000-4-5:2014+A1:2017
Conducted Immunity	EN 61000-4-6:2014
Power Frequency Magnetic Field	EN 61000-4-8:2010
RoHS	IEC 63000:2018

For all technical enquiries regarding this product, please contact our technical support team using the following email address:

[support@parallaxdigital.co.uk](mailto:support@parallaxdigital.co.uk)